No. 200100100

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

NDSU Research Foundation

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMERICAL DESIGNATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'Walsh'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-third day of June, in the year two thousand and five.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
NDSU Research Foundation

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
ND96-8929

3. VARIETY NAME
'Walsh'

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
C/O Executive Director
PO Box 5002
1735 NDSU Research Park Drive
Fargo, ND 58105-5002

5. TELEPHONE *(include area code)*
(701) 231-8931

6. FAX *(include area code)*
(701) 231-6661

FOR OFFICIAL USE ONLY

PVPO NUMBER
200100100

FILING DATE
2/6/2001

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
501 (C) (3) Corporation

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
North Dakota

9. DATE OF INCORPORATION
May, 1989

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*

Theodore C. Helms
Dept. of Plant Sciences
North Dakota State University
PO Box 5051
Fargo, ND 58105-5051

Dale Zetocha
NDSU Research Foundation
PO Box 5002
1735 NDSU Research Park Drive
Fargo, ND 58105-5002

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 2,705.00
DATE 2/6/2001

CERTIFICATION FEE:
$ 432.00
DATE 4-21-2005

11. TELEPHONE *(Include area code)*
701-231-8136

12. FAX *(Include area code)*
701-231-8474

13. E-MAIL
ted.helms@ndsu.nodak.edu
dale.zetocha@ndsu.nodak.edu

14. CROP KIND *(Common Name)*
Soybean

15. GENUS AND SPECIES NAME OF CROP
Glycine max

16. FAMILY NAME *(Botanical)*
Leguminasae

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☑ NO

18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED
(Follow instructions on reverse)

a. ☑ Exhibit A. Origin and Breeding History of the Variety
b. ☑ Exhibit B. Statement of Distinctness
c. ☑ Exhibit C. Objective Description of Variety
d. ☐ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☑ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☑ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☑ Filing and Examination Fee ($2,705), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)* 2,705 (R: 6/14/2004)

19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *See Section 83(a) of the Plant Variety Protection Act)*
☑ YES *(If "yes", answer items 20 and 21 below)* ☐ NO *(If "no", go to item 22)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? ☑ YES ☐ NO
IF YES, WHICH CLASSES? ☑ FOUNDATION ☑ REGISTERED ☑ CERTIFIED

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ YES ☑ NO
IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED
(If additional explanation is necessary, please use the space indicated on the reverse.)

22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☑ YES ☐ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☑ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

24. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER
Dale Zetocha

NAME *(Please print or type)*
Dale Zetocha

CAPACITY OR TITLE
Executive Director
NDSU Research Foundation

DATE
6/11/04

SIGNATURE OF OWNER

NAME *(Please print or type)*

CAPACITY OR TITLE

DATE

ST-470 (02-10-2003) designed by the Plant Variety Protection Office using Word 2000. Replaces former versions of ST-470, which are obsolete.

(See reverse for instructions and information collection burden statement)

200100100

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $3,652-($432 filing fee and $3,220 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvpo/pvp.htm

ITEM

18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

19. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

22. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

23. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

21. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

22. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

U.S.A. release date: ~~February 20, 1998~~ January 19 2001 (BT 8/2/2004 per applicant's verification and authorization).

23. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089. http://www.ams.usda.gov/lsg/seed.htm

ST-470 (02-10-2003) designed by the Plant Variety Protection Office with Word 2000. Replaces former versions of ST-470, which are obsolete.

Exhibit A

Origin and Breeding History of the Variety Walsh

Walsh, tested as ND no. 96-8929 was derived from the cross ND88-800/Council. ND88-800 is an experimental line developed by North Dakota State University, Fargo, ND that was never released as a named cultivar. The pedigree of ND88-800 is 'Maple Amber'/'Evans'. Council is a cultivar that was developed by North Dakota State University, Fargo, ND. The cross was made in Fargo, ND in 1993. The F_1 plant was grown in the 1993-1994 Chile, S.A. winter nursery. The F_2 seed was grown in the summer of 1994 and advanced to the F_3 generation by the single-pod bulk method. The F_3 population was grown in the 1994-1995 Chile winter nursery. The F_4 generation was grown in the 1995 Casselton, ND nursery. F_4 plants from the segregating population were individually threshed in the fall of 1995. In the 1996 Casselton, ND nursery, $F_{4:5}$ plant-rows were selected. ND96-8929 was first tested in replicated yield trials in 1997. Walsh was selected for early maturity, race 3 phytophthora root rot resistance, high yield, and lodging resistance. Walsh was evaluated in the Uniform Regional Soybean Tests: Northern States as a Maturity Group 0 experimental line in 1999 and 2000. Individual $F_{4:6}$ plants were threshed in 1998 and 48 single-plant selections were evaluated for uniformity in the summer of 1999. Twenty-two purification rows were discarded and the remaining 26 rows were individually harvested and bulked after evaluation of hilum color, plant maturity, flower color, plant height, pubescence color, seed coat luster, and pod color. Breeder seed of ND96-8929 was increased in the 1999-2000 Chile winter nursery. In the summer of 2000, the Foundation seed of ND96-8929 was increased at Casselton and Carrington, ND. Walsh was released January 19, 2001 JJH 3/2/2004 as verified by the applicant ~~2000~~ as an F_9 generation pure line soybean cultivar. Variants that include up to 0.2% buff hila,

0.2% grey hila, 0.3% brown hila, 0.2% white flower color, 1 % tawny pubescence, and 0.2% tan pod color are considered within normal variation for the cultivar Walsh. Walsh has been observed to be uniform and stable for a period of three years for the characteristics described within the application.

Exhibit B

Novelty Statement

1. Walsh was primarily developed for early maturity, high yield, race 3 phytophthora root rot resistance and lodging resistance.

2. Walsh is most similar to Council. Walsh has purple flowers, grey pubescence, brown pods, and yellow hila. Walsh is resistant to races 3, 4, and 25 of *Phytophthora sojae*. Council has purple flowers, grey pubescence, brown pods and yellow hila. Council is susceptible to races 3 and 4 of *Phytophthora sojae*.

REPRODUCE LOCALLY. Include form number and date on all reproductions.

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* (L.) Merr.)

NAME OF APPLICANT(S)
NDSU Research Foundation

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)
1735 NDSU Research Park Drive
P.O. Box 5002
Fargo, N.D. 58105

FOR OFFICIAL USE ONLY

PVPO NUMBER
200100100

VARIETY NAME
Walsh (bt: 6/15/2004 per applicant's authorization)

TEMPORARY OR EXPERIMENTAL DESIGNATION
ND96-8929 (bt: 6/15/2004 per applicant's authorization)

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in the first box (e.g. | 9 | 9 | 9 | or | 0 | 9 |) when number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:

Please answer all questions for your variety; lack of response may delay progress of your application.

A. MORPHOLOGY

Seed Shape:

[2]	1 = Spherical (L/W, L/T, and T/W ratios < 1.2)	2 = Spherical-Flattened (L/W ratio > 1.2; L/T ratio < 1.2)
	3 = Elongate (L/T ratio > 1.2; T/W ratio < 1.2)	4 = Elongate-Flattened (L/T ratio > 1.2;T/W ratio > 1.2)

Seed Coat Color:

[1] 1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other (*Please Specify*) _____

Seed Coat Luster:

[1] 1 = Dull 2 = Shiny

Seed Size:

[1][7] grams/100 seeds

Hilum Color:

[2] 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black
6 = Black 7 = Other (*Please Specify*) _____

200100100

A. MORPHOLOGY (*Continued*)

Cotyledon Color:

[1] 1 = Yellow 2 = Green

Seed Protein Peroxidase Activity:

[2] 1 = Low 2 = High

Hypocotyl Color:

[4] 1 = Green ('Evans' or 'Davis') 2 = Green with Bronze Bands below Cotyledons ('Woodworth' or 'Tracy') 3 = Light Purple below Cotyledons ('Beeson' or 'Pickett 71') 4 = Dark Purple extending to unifoliolate leaves ('Hodgson', 'Coker', or 'Hampton 266A')

Leaflet Shape:

[2] 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (*Please Specify*) _____

Flower Color:

[2] 1 = White 2 = Purple 3 = White with a Purple Throat

Pod Color:

[2] 1 = Tan 2 = Brown 3 = Black

Pubescence Color:

[1] 1 = Gray 2 = Brown (Tawny) 3 = Light Tawny

Plant Habit:

[3] 1 = Determinate 2 = Semi - Determinate 3 = Indeterminate 4 = Intermediate

Maturity Group:

[0 3]

1 = 000	2 = 00	3 = 0	4 = I	5 = II
6 = III	7 = IV	8 = V	9 = VI	10 = VII
11 = VIII	12 = IX	13 = X	14 = XI	15 = XII

Maturity Subgroup:

[3] Please enter a value from 0 - 9

B. DISEASE REACTIONS 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Bacterial

[0] Bacterial Pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye)

[0] Bacterial Blight (*Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye, & Wilkie)

[0] Wildfire Blight (*Pseudomonas syringae* pv. *tabaci* (Wolf & Foster) Young, Dye, & Wilkie)

B. DISEASE REACTIONS (*Continued*) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Fungal

20010010

[0] Brown Spot (*Septoria glycines* Hemmi)

Frogeye Leaf Spot (*Cercospora sojina* Hara)

[0] race 1 [0] race 2 [0] race 3 [0] race 4

[0] race 5 [0] race 6 [0] Other (*Please Specify*) _____

[0] Target Spot (*Corynespora cassiicola* (Berk. & Curt.) Wei)

[0] Downey Mildew (*Peronospora trifoliorum* var. *manchurica* (Naum.) Syd. ex Gäum)

[0] Powdery Mildew (*Microsphaera diffusa* Cke. & Pk.)

[0] Brown Stem Rot (*Phialophora gregata* (Allington & Chamberlain) W. Gams.)

[0] Stem Canker (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *caulivora* Athow & Caldwell)

[0] Pod and Stem Blight (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *sojae* (Lehman) Wehm.)

[0] Purple Seed Stain (*Cercospora kikuchii* (T. Matsu. & Tomoyasu) Gardener)

[0] Rhizoctonia Root Rot (*Rhizoctonia solani* Kühn)

Phytophthora Root Rot (*Phytophthora megasperma* Drechs. f. sp. *glycinea* (Kuan & Erwin))

[0] race 1 [0] race 8 [0] race 15 [0] race 22

[0] race 2 [0] race 9 [0] race 16 [0] race 23

[2] race 3 [0] race 10 [1] race 17 [0] race 24

[2] race 4 [0] race 11 [0] race 18 [2] race 25

[0] race 5 [0] race 12 [0] race 19 [0] race 26

[0] race 6 [0] race 13 [0] race 20 [0] Other (*Please Specify*)

[1] race 7 [0] race 14 [0] race 21 _____

[0] Bud Blight (Tobacco Ringspot Virus)

[0] Yellow Mosaic (Bean Yellow Mosaic Virus)

B. DISEASE REACTIONS (*Continued*) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

200100100

[0] Cowpea Mosaic (Cowpea Chlorotic Virus)

[0] Pod Mottle (Bean Pod Mottle Virus)

[0] Seed Mottle (Soybean Mosaic Virus)

Nematode

Soybean Cyst Nematode (*Heterodera glycines* Ichinohe)

[0] race 1
[0] race 2
[0] race 3
[0] race 4
[0] race 5
[0] race 6
[0] race 9
[0] race 14
[0] Other (*Please Specify*) _____

[0] Lance Nematode (*Hoplolaimus columbus* Sher)

[0] Southern Root Knot Nematode (*Meloidogyne incognita* (Kofoid & White) Chitwood)

[0] Northern Root Knot Nematode (*Meloidogyne hapla* Chitwood)

[0] Peanut Root Knot Nematode (*Meloidogyne arenaria* (Neal) Chitwood)

[0] Reniform Nematode (*Rotylenchus reniformus* Linwood & Olivera)

[0] Javanese Nematode (*Meloidogyne javanica* (Treub) Chitwood)

[0] Other Nematode (*Please Specify*) _____

C. PHYSIOLOGICAL RESPONSES 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

[2] Iron Chlorosis on Calcareous Soil

[0] Phosphorus

[0] Other (*Please Specify*) _____

[0] Boron

[0] Aluminum

[0] Salt

[0] Drought

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D. INSECT REACTIONS 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

[0] Mexican Bean Beetle (*Epilachna varivestis* Mulsant)

[0] Potato Leaf Hopper (*Empoasca fabae* (Harris))

[0] Other (*Please Specify*) _____

E. HERBICIDE REACTIONS 0 = Not Tested 1 = Susceptible 2 = Resistant

[0] Metribuzin

[0] Bentazone

[0] Sulfonylurea

[1] Glyphosate

[0] Glufosinate

[0] Pendimethalin

[0] Other (*Please Specify*) _____

F. TRANSGENIC COMPOSITION

Has the development of the subject variety included the insertion of genetic material from an organism other than a soybean, or, the removal of genetic material from the application variety?
If yes, please complete the following information requests*. Use additional pages if necessary. [ ] YES [X] NO

1. Please state the vector's name:
2. Please state the vector components:
3. Please describe the genetic material successfully transferred into the subject variety:
4. Please describe the insertion protocol:

* A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.

G. BIOCHEMICAL MARKERS

Please describe any biochemical information here, which you believe will be helpful in further describing the subject variety (*e.g.* Simple Sequence Repeats, Restriction Fragment Length Polymorphisms, Isozymic Characterization). Use additional pages if necessary.

22. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	SE P
				CM Width	CM Length	% Protein	% Oil		
Walsh (Submitted)	123	1.3	66	5.9	8.1	41.5	20.3	17.1	2.6
Barnes (Name of Similar Variety)	122	1.3	74	6.7	9.0	40.7	21.2	17.4	2.5

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.

2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.

3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A_2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.

4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1

E. COMMENTS

20010100

Exhibit D (11/24/
20010010

NDSU NORTH DAKOTA STATE UNIVERSITY

Department of Plant Sciences
Loftsgard Hall
P.O. Box 5051
Fargo, ND 58105-5051

701.231.7971
Fax 701.231.8474
albert.schneiter@ndsu.nodak.edu

Nov. 4, 2004

Beretha Thornton
Plant Variety Protection Office
NAL Bld. Rm. 401
10301 Baltimore Blvd.
Beltsville, Maryland 20705-2351

Dear Beretha,

It is my understanding that the Senior Examiner requested further testing to substantiate the fact that the cultivar Walsh is different than the cultivar Council. Council is the most similar variety. Council is susceptible to Race 3 of phytophthora root rot (*Phytophthora sojae*), while Walsh is resistant to Race 3. Dr. Berlin Nelson, Dept. of Plant Pathology, North Dakota State University, provided me with further test results to substantiate that fact. The cultivar McCall was used as a check because McCall is susceptible to Race 3. The cultivar Glacier was used as a resistant check because Glacier is resistant to Race 3.

Two different pathology tests were conducted, the stem inoculation and the cotyledon inoculation. Additionally, two different isolates of Race 3 were used for both the stem as well as the cotyledon inoculation tests. Race 3 isolates were labeled 94-3-7 and 03-47-4. For the stem inoculation test, 21% and 0% survival occurred for Council for the 94-3-7 and 03-47-4 isolates, respectively. For the stem inoculation test, 100% and 89% survival occurred for Walsh for the 94-3-7 and 03-47-4 isolates, respectively. Both the susceptible check (McCall) and the resistant check (Glacier) reacted as would be expected for Race 3 inoculation using the stem inoculation procedure.

For the cotyledon inoculation test: survival for Council was 47% and 50% for the 94-3-7 and the 03-47-4 isolates, respectively; survival for Walsh was 100% for both the 94-3-7 and 03-47-4 isolates. Both the susceptible check (McCall) and the resistant check (Glacier) reacted as would be expected for Race 3 inoculation using the cotyledon inoculation procedure. Digital pictures and tables are provided with the enclosure.

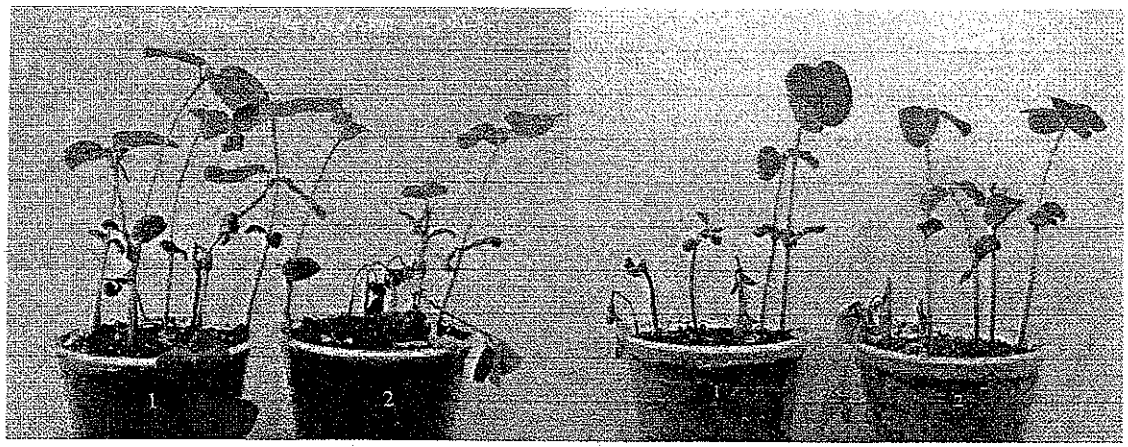
I hope this data is sufficient and meets the requirements of the PVP office. Because resistance to phytophthora root rot is controlled by major, qualitative genes, this is considered a discreet variable and not a continuous variable. Two different tests were conducted using two different isolates for each of the two tests. The results of both types of tests are consistent for both isolates and show that the cultivar Council is susceptible and Walsh is resistant.

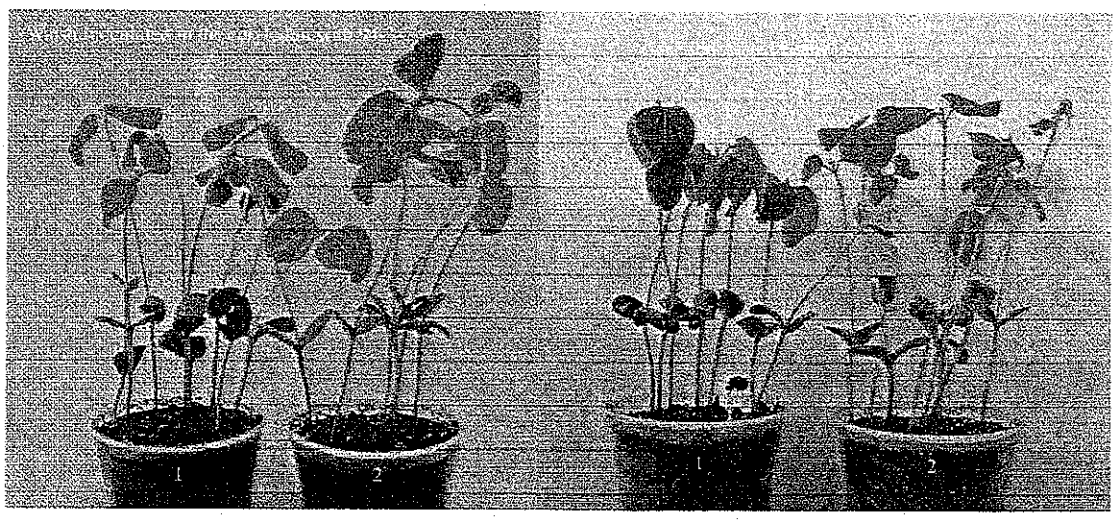
Sincerely,

Ted Helms
Professor

Cotyledon Inoculations

	94-3-7	03-47-4
	Percent Survival	
Council	47	50
Walsh	100	100
Glacier	100	100
McCall	6	0

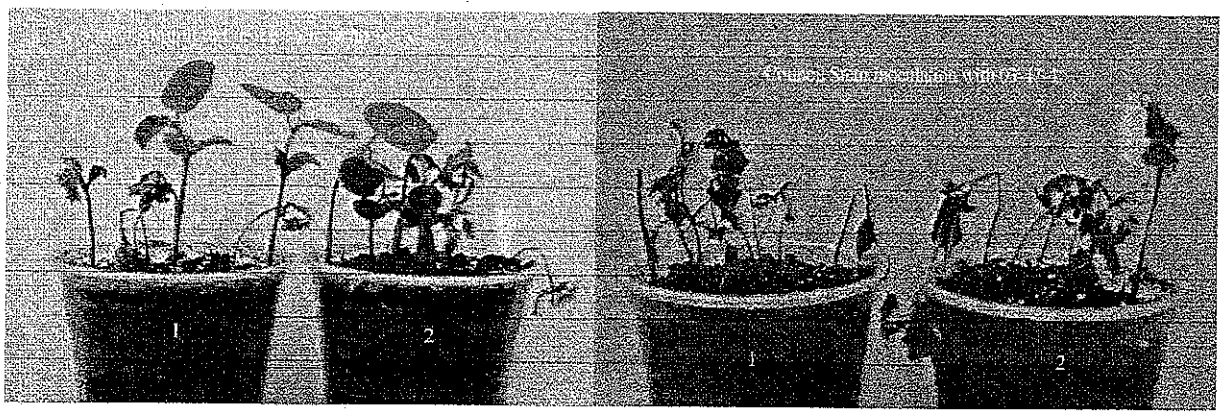


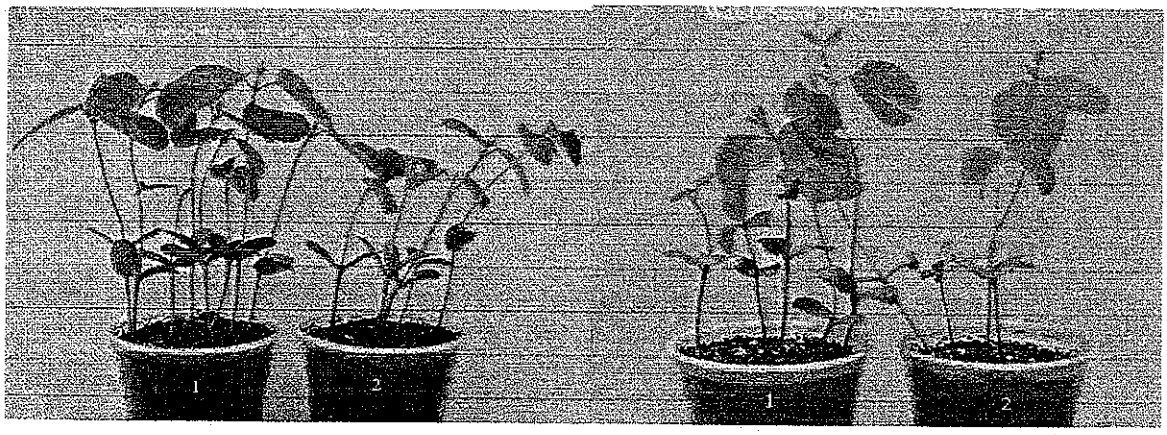


Percent Survival of cultivars following inoculations of stem and cotyledon by Phytopthera Race 3 (94-3-7 and 03-47-4)

Stem Inoculations

	94-3-7	03-47-4
	Percent Survival	
Council	21	0
Walsh	100	89
Glacier	100	100
McCall	0	0





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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
NDSU Research Foundation	ND96-8929	'Walsh'
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	**5. TELEPHONE** *(Include area code)*	**6. FAX** *(Include area code)*
C/O Executive Director PO Box 5002 Fargo, ND 58105-5002	(701) 231-8931	(701) 231-6661
	7. PVPO NUMBER 200100100	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain.** ☑ YES ☐ NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? **If no, give name of country.** ☑ YES ☐ NO

10. Is the applicant the original owner? ☐ YES ☑ NO **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
☐ YES ☐ NO **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
☑ YES ☐ NO **If no, give name of country**

11. Additional explanation on ownership *(Trace ownership from original breeder to current owner. Use the reverse for extra space if needed)*:

See additional Exhibit E Statement on the Basis of the applicant's ownership included in the application.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.

2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.

3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

Exhibit E

Statement of the basis of applicant's ownership

Dr. Theodore Helms, an employee of the North Dakota Agricultural Experiment Station and North Dakota State University, is the plant breeder who developed 'WALSH', the soybean cultivar for which Plant Variety Protection is hereby sought. The employee by agreement and because of the conditions of the use of the facilities and funds of the North Dakota Agricultural Experiment Station and North Dakota State University has assigned all ownership rights to 'WALSH' soybean to the North Dakota Agricultural Experiment Station and North Dakota State University.

North Dakota State University on behalf of the North Dakota Agricultural Experiment Station has assigned ownership to the NDSU Research Foundation. The NDSU Research Foundation is a nonprofit corporation set up to own and manage the intellectual property of North Dakota State University.